REMARKS

Claims 1-31 were in issue. By this amendment, claims 1-7, 15-18, 20-27, and 30 have been amended. Claims 28-29 have been cancelled. Accordingly, claims 1-27 and 30-31 are presented and at issue. No new matter has been added. By this amendment, claims 1-27 and 30-31 are believed to be in condition for allowance.

The Invention

The invention comprises a computer file control system, with a suitable user interface, which allows a user to define categories for files stored in a computer system. A user can edit such categories as they are used, designate all applicable categories for each file, and link categories in user-definable ways. The invention further allows a user to be reminded of linked categories.

In the process of search and retrieval, the invention overcomes the problem of search filter definition by insuring that the user defines a filter which will always find at least one file, thus avoiding wasting time in searching for data that cannot be matched. This is achieved in two ways. First, the user is not required to type the key words to search. Instead, the user simply chooses the words from pick lists, making mistyping impossible. Second, as the user builds the search filter definition, categories which find no data are automatically excluded as pick list possibilities.

More particularly, the invention allows users to define an unlimited number of their own "hybrid folders" by simply describing, using categories the user defines, the file contents of those files which are to belong to each "hybrid folder". This description is dynamic (that is, changeable by the user from time to time), and may be either totally unrestricted or restricted to a particular directory or sub-directory, as the user chooses. Such hybrid folders can be implemented on top of, and used in addition to, a conventional hierarchical structured directory, or they may replace such conventional structures entirely.

The Amendments

Applicant has amended the title to the application to more clearly indicate the invention to which the claims are directed. In particular, the title is derived from the preamble of claim 2 of the application.

Applicants have amended claims 7-16 and 18 to clarify these claims and overcome the Examiner's §112, second paragraph rejection. Applicants appreciate the Examiner's pointing out the minor ambiguities of these claims.

Section 102 Rejection

The Examiner has rejected claims 1-4, and 27-29, under §102 as being anticipated by the references to Schwartz, Cochran, or by the "Thought Pattern Handbook". Applicants respectfully traverse this rejection with respect to the claims as amended.

The reference to Schwartz teaches a data file management machine that enables a user to characterize stored data files according to user-defined "file attributes". Each file attribute is a variable having a user-defined name such as "author" or "subject matter". A user may assign a value to the file attribute for each file. The values that may be assigned to a file attribute may comprise user-defined character strings, such as "Smith" or "pump specification", or may be an integer. The machine stores data representing file attributes and their values in a set of "node records", each node record comprising a collection of data associated with the file. It does not appear that Schwartz teaches or suggests the use of pre-defined _values_ for the pre-defined attributes/variables.

In contrast, claim 1 of the present invention provides for defining in the computer system "at least one list of at least one pre-defined category description". The "category descriptions" of the present invention are somewhat similar to the _values_ that can be assigned by a user to a new file attribute. File attributes under Schwartz are basically similar to the category _types_ described in the present application. Thus, under Schwartz, while a user can define category types/attributes, it does not appear at all that the possible values/category descriptions for each file attribute/category type are _pre-defined_, as required by the present claims. An advantage of the present system is that _all_ category descriptions _must be pre-defined_, so that a user _cannot_ select a value/category description at will. Under Schwartz, because file attribute _values_ are not pre-defined, the user can select, for example, any last name as a value for a file attribute such as "LAST NAME". By not restricting a user to selecting pre-defined category descriptions, as presently claimed, Schwartz allows creation of one of the problems the present invention solves -- that is, proliferation of different descriptors for similar files.

Thus, the invention as presently claimed differs from Schwartz in that a _pre-defined_ list of category descriptions must exist in the computer system prior to accepting user input associating with the file at least one category description selected from the list of category descriptions. Schwartz permits predefinition of file attributes, but apparently permits unrestricted assignment of attribute _values_ to such file attributes.

Accordingly, Schwartz does not anticipate claim 1 as amended. Further, the invention set forth in claim 1 is not obvious in view of Schwartz, since one of the purposes of Schwartz is to allow free assignment of attribute <u>values</u> to file attributes by a user.

Cochran essentially teaches a "query by example" system in which a user can build a query for a <u>database</u> by selecting values from display fields. Search terms are grouped in a plurality of lists and each list represents a category or a field in a record in the database (col. 2, lines 55-59). Lists are classified as fixed or static lists, and dynamic or variable lists. Static lists have a set or fixed number of terms therein and are derived from <u>expected</u> items in the database. Dynamic lists are made by obtaining data fields from each record in the database wherein the fields correspond to the category selected by the user. The data fields are treated as search terms and the terms are displayed and selected by the user by means of scrolling and select controls (col. 3, lines 28-49). Importantly, static lists anticipate all choices <u>even if there are no records that satisfy the choice at the time the list is constructed</u> (col. 10, lines 44-46). On the other hand, while dynamic lists present only terms that have at least one corresponding record, dynamic lists are derived (and freshened) by actually <u>searching</u> the database dynamically to generate a list of all current terms in a particular field of the database. As noted by Cochran, the search time to develop a dynamic list may be lengthy.

In contrast, the present invention is not directed to generating queries or data sets for a database, but is a method for accessing <u>files</u> in a data storage system. In accordance with the present invention, a defined list of at least one pre-defined category description is displayed to a user, and the user defines a search filter by selecting from the <u>pre-defined</u> category descriptions. Moreover, Cochran fails to teach or suggest disabling the selectability of displayed category descriptions that would not provide a logical match to the category descriptions of the defined search filter (claim 2) or searching stored file records, comprising at least a file name, file location information and at least one associated category description for the selected file, for logical matches to the descriptions of the defined search filter (claim 3).

One of ordinary skill in the art would not take teachings of Cochran to suggest that the visual "query by example" system of Cochran, dedicated for use in querying a database, could be in any way adapted to a system in which a separate data file of file records is created, containing category descriptions that are associated with each file by a user. Such file records are somewhat similar to the static lists of Cochran in that they are completely pre-defined, but unlike the static lists of Cochran, the category descriptions do not anticipate <u>all</u> choices, even if there are no records that satisfy that choice at the time the list is constructed. Indeed, a basic premise of the present invention is that the category descriptions help <u>insure</u> that a choice exists. For example, if the user defines a category description for which no file record has an associated

-14-

match, then that category description is automatically disabled from selection by the user. The static lists of Cochran do not have this feature. Further, unlike the dynamic lists of Cochran, the associations of category description to files is defined, and kept in a separate, easily searchable set of file records. Therefore, time consuming searches of all entries in a particular field of a database are not required, as is required by the dynamic lists of Cochran.

Accordingly, Cochran neither teaches nor suggests the invention set forth in claims 2 and 3, as amended.

Schwartz does not anticipate claim 4 because it fails to teach or suggest the definition of at least one list of at least one pre-defined category description (as described above with respect to claim 1), and further fails to teach or suggest user definition of a search filter selected from the displayed defined list of category descriptions. Accordingly, claim 4 is patentably distinguishable from Schwartz.

The arguments with respect to claims 1, 2, 3, and 4 apply equally to the corresponding claims 21, 22, 23, and 24, and the claims dependent from claims 1-4 and 21-24.

With respect to claims 27-29, Applicants have amended claim 27, and accordingly the claims dependent thereon, to recite that the system for accessing files include "category linking means for linking at least one linking category to at least one linked category, such that if a specific file is associated with a linking category, the user must also associate that specific file with at least one of the linked categories corresponding to the linking category". There is no teaching or suggestion in the Thought Pattern Handbook reference to provide the function of the category linking means. Accordingly, Applicants submit that claim 27, and the claims dependent thereon, are neither anticipated or suggested by the Thought Pattern Handbook reference.

Section 103 Rejection

The Examiner has rejected claim 5 as being obvious in view of Schwartz and Cochran. First, as pointed out above, Schwartz and Cochran do not anticipate claims 3 or 4, from which claim 5 depends. Moreover, contrary to the assertion by the Examiner, Cochran does not teach or suggest "disabling ... selectability of all category descriptions in each displayed list that would not provide a logical match to the category descriptions of the defined search filter". The Examiner cites col. 10, lines 49-53 of Cochran for support. However, these lines have nothing to do with disabling selectability of category descriptions in displayed lists. This specific reference refers only to the creation of dynamic lists by actively searching specific fields

in a database to determine all unique terms that actually appear in that field. This is totally unrelated to the concept set forth in claim 5, as amended.

Similarly, claim 6 is not obvious in view of Schwartz and the Thought Pattern Handbook reference. Schwartz is relied upon for anticipating or making obvious claim 4, with the Thought Pattern Handbook supplying the deficiencies of Schwartz with respect to the additional elements set forth in claim 6. However, as noted above, claim 3 is distinguishable from Cochran and claim 4 is distinguishable from Schwartz. Accordingly, claim 6 is distinguishable from the cited combination.

Independent claim 7 has been rejected as obvious in view of the combination of Schwartz and Cochran, and the claims dependent therefrom have been rejected as being obvious in view of the combination of Schwartz and Cochran, in combination together or with additional references. However, Cochran does not teach or suggest the creation of a "category table containing at least one category", the creation of a "file information directory comprising at least one entry corresponding to a file on the data storage system, each entry comprising at least a unique file identifier for the corresponding file, and a countable set of categories selected from the category table", and/or creation of a "search filter comprising a countable set of categories, wherein for each category in the search filter there is at least one entry in the file information directory having a countable set of categories matching the countable set of categories of the search filter". In short, as noted above, Cochran teaches a method for generating a visual query by example data set for searching a database. Accordingly, Cochran does not teach or suggest any of the steps recited in claim 7.

Similarly, Schwartz does not teach or suggest any of the steps recited in claim 7. Most particularly, Schwartz neither teaches nor suggests the creation of a search filter comprising a countable set of categories wherein for each category in the search filter, there is <u>guaranteed</u> to be at least one entry in the file information directory having a countable set of categories matching the countable set of categories of the search filter. None of the other references cited by the Examiner with respect to the claims dependent from claim 7 supply these deficiencies. Accordingly, claims 7-29 are patentably distinct from the cited references.

Accordingly, Applicants submit that none of the references, alone or in combination, anticipate or make obvious the invention as presently claimed. Applicants submit that this case is now in condition for allowance. Therefore, Applicants respectfully request reconsideration and reexamination of the present application and allowance of the case at an early date.

Respectfully submitted,

SPENSLEY HORN JUBAS & LUBITZ

Dated: May 9, 1994

By: JOHN LAND
       Reg. No. 29,554

Suite 500
1880 Century Park East
Los Angeles, CA 90067
(619) 455-5100